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## RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical  
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Application Serial Number: 10/529,072  
Source: P45  
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PCT

## RAW SEQUENCE LISTING

DATE: 04/04/2006

PATENT APPLICATION: US/10/529,072

TIME: 10:08:28

Input Set : A:\BB-140.ST25.txt

Output Set: N:\CRF4\04042006\J529072.raw

3 &lt;110&gt; APPLICANT: Voss, Ralf-Holger

4 Matthias, Theobald

6 &lt;120&gt; TITLE OF INVENTION: Method for Rational Mutagenesis of Alpha/Beta T-Cell

## Receptors

7 and Correspondingly Mutated MDM2-Protein Specific Alpha/Beta  
8 T-Cell Receptors

10 &lt;130&gt; FILE REFERENCE: BB-140

12 &lt;140&gt; CURRENT APPLICATION NUMBER: 10/529,072

13 &lt;141&gt; CURRENT FILING DATE: 2005-03-24

15 &lt;150&gt; PRIOR APPLICATION NUMBER: PCT/EP2003/010633

16 &lt;151&gt; PRIOR FILING DATE: 2003-09-24

18 &lt;150&gt; PRIOR APPLICATION NUMBER: DE 10244457.9

19 &lt;151&gt; PRIOR FILING DATE: 2002-09-24

21 &lt;160&gt; NUMBER OF SEQ ID NOS: 6

23 &lt;170&gt; SOFTWARE: PatentIn version 3.3

25 &lt;210&gt; SEQ ID NO: 1

26 &lt;211&gt; LENGTH: 200

27 &lt;212&gt; TYPE: PRT

28 &lt;213&gt; ORGANISM: Mus musculus

30 &lt;400&gt; SEQUENCE: 1

32 Gln Ser Val Thr Gln Pro Asp Ala Arg Val Thr Val Ser Glu Gly Ala

33 1 5 10 15

36 Ser Leu Gln Leu Arg Cys Lys Tyr Ser Tyr Ser Ala Thr Pro Tyr Leu

37 20 25 30

40 Phe Trp Tyr Val Gln Tyr Pro Gln Gly Leu Gln Leu Leu Lys Tyr

41 35 40 45

44 Tyr Ser Gly Asp Pro Val Val Gln Gly Val Asn Gly Phe Glu Ala Glu

45 50 55 60

48 Phe Ser Lys Ser Asn Ser Ser Phe His Leu Arg Lys Ala Ser Val His

49 65 70 75 80

52 Trp Ser Asp Ser Ala Val Tyr Phe Cys Ala Val Ser Gly Phe Ala Ser

53 85 90 95

56 Ala Leu Thr Phe Gly Ser Gly Thr Lys Val Ile Val Leu Pro Tyr Ile

57 100 105 110

60 Gln Asn Pro Glu Pro Ala Val Tyr Ala Leu Lys Asp Pro Arg Ser Gln

61 115 120 125

64 Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln Ile Asn Val

65 130 135 140

68 Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr Asp Ala Thr Val Leu

69 145 150 155 160

72 Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly Ala Ile Ala Trp Ser

73 165 170 175

76 Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe Lys Glu Thr Asn Ala

77 180 185 190

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80 Thr Tyr Pro Ser Ser Asp Val Pro
81      195      200
84 <210> SEQ ID NO: 2
85 <211> LENGTH: 236
86 <212> TYPE: PRT
87 <213> ORGANISM: Mus musculus
89 <400> SEQUENCE: 2
91 Met Lys Arg Leu Leu Cys Ser Leu Leu Gly Leu Leu Cys Thr Gln Val
92 1      5      10      15
95 Cys Trp Val Lys Gly Gln Gln Val Gln Gln Ser Pro Ala Ser Leu Val
96      20      25      30
99 Leu Gln Glu Gly Glu Asn Ala Glu Leu Gln Cys Asn Phe Ser Ser Thr
100     35     40     45
103 Ala Thr Arg Leu Gln Trp Phe Tyr Gln Arg Pro Gly Gly Ser Leu Val
104     50     55     60
107 Ser Leu Leu Tyr Asn Pro Ser Gly Thr Lys His Thr Gly Arg Leu Thr
108 65      70      75      80
111 Ser Thr Thr Val Thr Lys Glu Arg Arg Ser Ser Leu His Ile Ser Ser
112     85     90     95
115 Ser Gln Thr Thr Asp Ser Gly Thr Tyr Phe Cys Ala Thr Ser Ser Val
116    100    105    110
119 Asn Thr Gly Asn Tyr Lys Tyr Val Phe Gly Ala Gly Thr Arg Leu Lys
120    115    120    125
123 Val Ile Ala His Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys
124    130    135    140
127 Asp Pro Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp
128 145    150    155    160
131 Ser Gln Ile Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile Thr
132    165    170    175
135 Asp Lys Thr Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn Gly
136    180    185    190
139 Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile Phe
140    195    200    205
143 Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala
144    210    215    220
147 Thr Leu Thr Glu Lys Ser Phe Glu Thr Asp Met Asn
148 225    230    235
151 <210> SEQ ID NO: 3
152 <211> LENGTH: 196
153 <212> TYPE: PRT
154 <213> ORGANISM: Homo sapiens
156 <400> SEQUENCE: 3
158 Gln Gln Val Lys Gln Asn Ser Pro Ser Leu Ser Val Gln Glu Gly Arg
159 1      5      10      15
162 Ile Ser Ile Leu Asn Cys Asp Tyr Thr Asn Ser Met Phe Asp Tyr Phe
163     20     25     30
166 Leu Trp Tyr Lys Lys Tyr Pro Ala Glu Gly Pro Thr Phe Leu Ile Ser
167     35     40     45
170 Ile Ser Ser Ile Lys Asp Lys Asn Ala Asp Gly Arg Phe Thr Val Phe

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171      50      55      60
174 Leu Asn Lys Ser Ala Lys His Leu Ser Leu His Ile Val Pro Ser Gln
175 65      70      75      80
178 Pro Gly Asp Ser Ala Val Tyr Phe Cys Ala Ala Met Glu Gly Ala Gln
179      85      90      95
182 Lys Leu Val Phe Gly Gln Gly Thr Arg Leu Thr Ile Asn Pro Asn Ile
183      100      105      110
186 Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp Ser Lys Ser Ser
187      115      120      125
190 Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr Asn Val
191      130      135      140
194 Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Lys Thr Val Leu Asp
195 145      150      155      160
198 Met Asp Ser Met Asp Phe Lys Ser Asn Ser Ala Val Ala Trp Ser Asn
199      165      170      175
202 Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser Ile Ile Pro
203      180      185      190
206 Glu Asp Thr Phe
207      195
210 <210> SEQ ID NO: 4
211 <211> LENGTH: 236
212 <212> TYPE: PRT
213 <213> ORGANISM: Mus musculus
215 <400> SEQUENCE: 4
217 Glu Ala Ala Val Thr Gln Ser Pro Arg Asn Lys Val Ala Val Thr Gly
218 1      5      10      15
221 Gly Lys Val Thr Leu Ser Cys Asn Gln Thr Asn Asn His Asn Asn Met
222      20      25      30
225 Tyr Trp Tyr Arg Gln Asp Thr Gly His Gly Leu Arg Leu Ile His Tyr
226      35      40      45
229 Ser Tyr Gly Ala Gly Ser Thr Glu Lys Gly Asp Ile Pro Asp Gly Tyr
230      50      55      60
233 Lys Ala Ser Arg Pro Ser Gln Glu Asn Phe Ser Leu Ile Leu Glu Leu
234 65      70      75      80
237 Ala Thr Pro Ser Gln Thr Ser Val Tyr Phe Cys Ala Ser Gly Gly Gly
238      85      90      95
241 Gly Thr Leu Tyr Phe Gly Ala Gly Thr Arg Leu Ser Val Leu Glu Asp
242      100      105      110
245 Leu Arg Asn Val Thr Pro Pro Lys Val Ser Leu Phe Glu Pro Ser Lys
246      115      120      125
249 Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr Leu Val Cys Leu Ala Arg
250      130      135      140
253 Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp Val Asn Gly Lys
254 145      150      155      160
257 Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Ala Tyr Lys Glu Ser
258      165      170      175
261 Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Ser Ala Thr Phe
262      180      185      190
265 Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val Gln Phe His Gly

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266          195          200          205
269 Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro Val Thr
270          210          215          220
273 Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp
274 225          230          235
277 <210> SEQ ID NO: 5
278 <211> LENGTH: 307
279 <212> TYPE: PRT
280 <213> ORGANISM: Mus musculus
282 <400> SEQUENCE: 5
284 Leu Met Asn Lys Trp Val Phe Cys Trp Val Thr Leu Cys Leu Leu Thr
285 1          5          10          15
288 Val Glu Thr Thr His Gly Asp Gly Gly Ile Ile Thr Gln Thr Pro Lys
289          20          25          30
292 Phe Leu Ile Gly Gln Glu Gly Gln Lys Leu Thr Leu Lys Cys Gln Gln
293          35          40          45
296 Asn Phe Asn His Asp Thr Met Tyr Trp Tyr Arg Gln Asp Ser Gly Lys
297          50          55          60
300 Gly Leu Arg Leu Ile Tyr Tyr Ser Ile Thr Glu Asn Asp Leu Gln Lys
301 65          70          75          80
304 Gly Asp Leu Ser Glu Gly Tyr Asp Ala Ser Arg Glu Lys Lys Ser Ser
305          85          90          95
308 Phe Ser Leu Thr Val Thr Ser Ala Gln Lys Asn Glu Met Ala Val Phe
309          100          105          110
312 Leu Cys Ala Ser Gly Asp Trp Gly Tyr Glu Gln Tyr Phe Gly Pro Gly
313          115          120          125
316 Thr Arg Leu Thr Val Leu Glu Asp Leu Arg Asn Val Thr Pro Pro Lys
317          130          135          140
320 Val Ser Leu Phe Glu Pro Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys
321 145          150          155          160
324 Ala Thr Leu Val Cys Leu Ala Arg Gly Phe Phe Pro Asp His Val Glu
325          165          170          175
328 Leu Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr
329          180          185          190
332 Asp Pro Gln Ala Tyr Lys Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser
333          195          200          205
336 Arg Leu Arg Val Ser Ala Thr Phe Trp His Asn Pro Arg Asn His Phe
337          210          215          220
340 Arg Cys Gln Val Gln Phe His Gly Leu Ser Glu Glu Asp Lys Trp Pro
341 225          230          235          240
344 Glu Gly Ser Pro Lys Pro Val Thr Gln Asn Ile Ser Ala Glu Ala Trp
345          245          250          255
348 Gly Arg Ala Asp Cys Gly Ile Thr Ser Ala Ser Tyr His Gln Gly Val
349          260          265          270
352 Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu
353          275          280          285
356 Tyr Ala Val Leu Val Ser Gly Leu Val Leu Met Ala Met Val Lys Lys
357          290          295          300
360 Lys Asn Ser

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361 305
364 <210> SEQ ID NO: 6
365 <211> LENGTH: 244
366 <212> TYPE: PRT
367 <213> ORGANISM: Homo sapiens
369 <400> SEQUENCE: 6
371 Asn Ala Gly Val Thr Gln Thr Pro Lys Phe Gln Val Leu Lys Thr Gly
372 1 5 10 15
375 Gln Ser Met Thr Leu Gln Cys Ala Gln Asp Met Asn His Glu Tyr Met
376 20 25 30
379 Ser Trp Tyr Arg Gln Asp Pro Gly Met Gly Leu Arg Leu Ile His Tyr
380 35 40 45
383 Ser Val Gly Ala Gly Ile Thr Asp Gln Gly Glu Val Pro Asn Gly Tyr
384 50 55 60
387 Asn Val Ser Arg Ser Thr Thr Glu Asp Phe Pro Leu Arg Leu Leu Ser
388 65 70 75 80
391 Ala Ala Pro Ser Gln Thr Ser Val Tyr Phe Cys Ala Ser Ser Tyr Pro
392 85 90 95
395 Gly Gly Gly Phe Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Ile Thr
396 100 105 110
399 Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala Val Phe
400 115 120 125
403 Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val
404 130 135 140
407 Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser Trp Trp
408 145 150 155 160
411 Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Pro
412 165 170 175
415 Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ala Leu Ser Ser
416 180 185 190
419 Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asp Pro Arg Asn His Phe
420 195 200 205
423 Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr
424 210 215 220
427 Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp
428 225 230 235 240
431 Gly Arg Ala Asp

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**VERIFICATION SUMMARY**

DATE: 04/04/2006

PATENT APPLICATION: US/10/529,072

TIME: 10:08:29

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